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Regional Institutions, Financial Analysts and Stock Price Informativeness

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Abstract: This paper investigates the impact of legal institutions on the external governance role of equity analysts in enhancing the corporate information environment. By analysing a sample of Chinese listed firms between 2003 and 2013, we find that analyst coverage is positively related to stock price informativeness. Firms located in provinces where legal institutions are stronger, as indicated by better development of market intermediaries and lower levies and charges on firms, are less likely to withhold value-relevant information. Financial analysts play a more effective role in improving stock informativeness in provinces with less developed legal institutions.

JEL Code: K00; G14; G30

Keywords: Analyst; China; Legal Institutions; Stock Informativeness

INTRODUCTION

A broad literature has investigated the governance role of financial analysts, but presents somewhat mixed evidence. For example, consistent with the premise that financial analysts facilitate intra-industry information transfer, Piotroski and Roulstone (2004) find that analyst forecasting activity is positively associated with stock return synchronicity, suggesting that stock prices incorporate less firm-specific information (which leads to lower stock price informativeness). However, Ayers and Freeman (2003) show that prices of firms with higher analyst following incorporate future earnings more rapidly than firms with lower analyst coverage, implying a positive relation between analyst coverage and stock price informativeness. In this study, we examine the association between analyst coverage and stock price informativeness by considering the regional heterogeneity of legal institutions in China.

Financial analysts are important financial intermediaries between firms and the market, as they routinely collect and process firm-specific information from corporate insiders and subsequently disseminate the information to current and prospective investors (Chung and Jo, 1996). We suggest that analyst coverage can enhance firm-level stock price informativeness through multiple channels. First, previous studies (e.g., Chan and Hameed, 2006; Piotroski and Roulston, 2004) suggest that analysts increase the availability of industry-level information because they have the expertise to interpret and disseminate information across firms operating in a specific industry. Furthermore, the reports and buy/sell recommendations issued by analysts convey useful firm-specific information, and reduce the cost of information acquisition (Easley et al., 1998). As a result, informed investors may take the informational advantage by trading in a timely manner, leading to more firm-specific information being capitalized into stock price. Second, analyst scrutiny is likely to monitor managerial behaviour and make it increasingly difficult for managers to expropriate investors

by withholding information (Lang et al., 2004). Previous literature contends that analysts play a key role in detecting managers' opportunistic behaviour and promoting the quality of financial reporting, because analysts are well trained to go through financial statements and track firms on a regular basis (Yu, 2008; Cheng et al., 2016). Analysts in turn improve the quality of corporate disclosure and decrease the cost of obtaining private information. Taken together, we expect to find support for a positive association between analyst coverage and stock price informativeness in China.

Extant studies have indicated that regional environment is an important determinant of firms' activities (Wang and Lin, 2013). As the largest emerging economy in the world, China's development has been unbalanced across its different regions on various aspects (Demurger, 2001; Fan and Wang, 2010; Tsui, 1996). Wojcik (2006) shows that the rate of change in convergence of corporate governance is uneven from country to country. The World Justice Project ranks China 80th in the world by Rule of Law Index. Transparency International ranks China 79th in the world by Corruption index. More importantly, there is a disparity in the legal institutions across regions in term of protection of property rights, law enforcement, and development of financial and product markets (Hasan et al., 2009; Lin et al., 2010; An et al., 2016). In more developed regions where investor protection and protection of property rights are relatively strong, managers face greater pressure to protect the interests of investors by constraining self-serving behaviour and enhancing corporate transparency. Meanwhile, local governments are less likely to expropriate firms. Managers therefore have a greater incentive to voluntarily provide firm-specific information to the market. Stock informativeness in these regions are expected to be higher and investors less rely on the governance role of financial analysts. China provides a unique opportunity to explore the interplay between analyst coverage, imbalanced institutional development and stock price informativeness.

In this study, our measure of stock price informativeness is price non-synchronicity, which is proposed by Roll (1988) and widely used in the literature (Morck et al., 2000; Piotroski and Roulstone, 2004). We use the number of analysts following a firm as the measure of analyst coverage. Based on the analysis of Chinese listed firms over the period between 2003 and 2013, we find that stock price informativeness is positively associated with analyst coverage and the regional legal institutions. Furthermore, the effect of analyst coverage on stock price informativeness is less pronounced in regions with developed institutions. Our results are robust to the inclusion of firm-specific characteristics and governance variables identified in previous literature as affecting price informativeness.

This study makes contribution to the literature on corporate governance and legal institutions. First, it adds to the literature on the external governance mechanism by shedding light on the ongoing debate on the governance role of financial analysts. We provide original evidence on the association between analyst coverage and stock price informativeness based firms from China. Second, it contributes to the studies of economic geography by providing evidence that regional legal institutions influence corporate information environment and the governance role of financial analysts. The results increase the understanding of economic consequence of uneven regional development within a country, and highlight the importance of reducing the development gap of legal institutions. Finally, our research is of interest to regulators and policymakers to improve the information environment of the Chinese capital markets.

The remainder of this paper proceeds as follows. Section 2 reviews related literature and develops the hypotheses. Section 3 describes our sample and methodology. Section 4 presents the empirical findings and Section 5 concludes.

Related literature and hypothesis development

Financial analysts and the information environment

The financial analyst industry has experienced remarkable growth in parallel with the rapid development of the Chinese stock market. By the end of 2013, there were 115 security companies in China; 84 consultancy firms have been approved by CSRC (China Securities Regulatory Commission) to provide investment consultancy services, with more than 2,500 qualified financial analysts being employed by both security firms and consultancy firms. Empirical studies show that analyst promotes stock market efficiency in China.

There are two streams of related literature on the role of financial analysts in promoting information environment. First, a large body of literature has examined the role of financial analysts as information intermediaries between firms and external investors. Because analysts collect information from both public and private sources, evaluate the current performance of a firm, make forecasts about its future prospects, and issue buy, hold or sell recommendations to investors, analyst coverage is likely to improve the transparency and decrease the information asymmetry of a firm under scrutiny (Chung and Jo, 1996; Lang et al., 2004). Empirical evidence largely supports this prediction. Roulstone (2003) shows that increased analyst following leads to increased liquidity because analysts are able to reduce information asymmetry between a firm's investors and managers.

Another stream of literature analyses the determinants of stock price informativeness at both country and firm levels. From a theoretical perspective, the lack of transparency, contagion and investors' sentiment are associated with less private information being impounded into stock price, which is reflected in low stock price informativeness (Jin and Myers, 2006). Empirically, Morck et al. (2000) show that country-level stock price informativeness is higher in countries with well-developed financial systems and better investor protection. Consistent with the view that stock price becomes more informative when it contains more private information about the firm, Durnev et al. (2003) report that stock price informativeness is highly correlated with the ability of stock price to predict

future earnings. Taking the mandatory IFRS adoption across 14 EU countries between 2003 and 2007 as an external shock, Beuselinck et al. (2010) find that mandatory IFRS adoption reveals new firm-specific information in the year of adoption, which is reflected by increased stock price informativeness. Yu (2011) shows that stock price Informativeness, measured by firm-specific return variation and future earnings response coefficient, increases with the quality of firm-level corporate governance. Furthermore, the results are more pronounced in countries with strong investor protection, which suggests that country-level and firm-level governance act as complements rather than supplements in influencing stock price informativeness. However, prior research also documents a negative association between analyst coverage and stock price informativeness. For example, Crawford et al. (2012) find that initiation of analyst coverage facilitates the flow of industry- and market-wide information, which results in stock return being more synchronous with market return (price being less informative). Overall, the evidence on the association between analyst coverage and stock price informativeness is mixed and inconclusive.

Hypothesis development

Financial analysts play both a monitoring role, when they demand and collect information from corporate insiders (i.e., managers), and an information role, when they analyse and disseminate information to external investors. Regarding the monitoring role, recent evidence suggests that financial analysts play a key role in constraining the earnings management practice of firms which they follow, because analysts have the necessary expertise and knowledge to go through financial reports and track firms on a regular basis (Yu, 2008). Consistent with the view that analysts act as an important information intermediary between the firm and market, Sun (2011) shows that income smoothing enhances earnings informativeness more significantly for firms with high analyst coverage. Prior research shows that analysts also help to reduce information asymmetry in the public

debt market, because analyst coverage is positively associated with firms' credit rating (Chen and Subramanyam, 2008). Overall, greater analyst coverage results in a rich information environment for the firm, which likely contributes to higher stock price informativeness. We hereby propose the first hypothesis as follows:

H1: There is a positive association between the analyst coverage and stock price informativeness of Chinese listed firms.

However, as documented in Piotroski and Roulstone (2004), in the US, analyst coverage leads to great stock price co-movement (less stock price informativeness), because analysts gather information at both firm and industry levels and disseminate common information across all firms in an industry. To the extent that analyst coverage in China also contributes to intra-industry information transfer, we would find a negative association between analyst coverage and stock price informativeness. This would work against us finding evidence supporting H1.

Previous research suggests that institutional development is an important determinant of stock price informativeness. For example, Morck et al. (2000) document that China has one of the lowest levels of stock price informativeness in their sample of countries, and they attribute this to the weak investor protection in China. China is characterised by unequal economic and institutional development across regions within the country. The economic and market development of the coastal provinces is more advanced than that of the western and inland provinces (Demurger, 2001; Fan and Wang, 2004; First et al., 2006; Tsui, 1996). In particular, the legal enforcement varies considerably across regions. Leyshon (2008) argues that if corporate borrowers desire cheaper capital in more developed countries (or regions), corporate managers may face the pressure of moving toward transparency as investors require greater amounts of corporate information. Consequently, we suggest that the level of corporate governance and, in turn, the level of corporate transparency or informativeness can

vary across regions in China. Stock price informativeness is likely to be high in more developed regions with a better legal environment and advanced market intermediaries This leads to the second hypothesis:

H2: There is a positive association between the level of regional institutions and stock price informativeness of Chinese listed firms.

Because legal enforcement and protection of property rights are relatively strong in regions with more advanced institutions, firm managers in these regions are under greater market pressure to voluntarily disclose firm-specific information. In addition, firms are less likely to face expropriation, and managers do not need to withhold information. As a result, investors rely less on analysts' governance role. Analyst coverage is less critical in promoting information environment when the regional institutions are strong. We hereby propose the third hypothesis.

H3: The association between analyst coverage and stock price informativeness is more (less) pronounced in regions with less (more) developed institutions.

RESEARCH DESIGN

Data and sample

The data used in our study are mainly from CSMAR (China Securities Market and Accounting Research). Our sample period begins in 2003, the first year when data on analyst coverage are available. We include all listed firms on the Shenzhen and Shanghai Stock Exchanges between 2003 and 2013. To construct the informativeness measure, the Chinese market returns are collected from DataStream and the US stock market returns are collected from CRSP (Center for Research in Security Prices). The data on provincial legal institutions are from Fan et al. (2010). There are 12,750 firm-year observations included in the subsequent analysis.

Measure of stock price informativeness

Our measure of stock price informativeness is price non-synchronicity, which was first proposed by Roll (1988) and further developed by Morck et al. (2000). In equation 1 (2) we consider the systematic stock return of the Chinese stock market (both Chinese and US markets). For each firm *i* in week *t*, we regress firm-level return in excess of the 7-day interbank offered rate in China (proxy of risk-free rate) on the Chinese and US market return. We require a minimum of 45 weekly observations within a 12-month period to perform the analysis.

$$r_{i,t} = \beta_0 + \beta_1 rm_t^{CN} + \varepsilon_{i,t} \quad (1)$$

$$r_{i,t} = \beta_0 + \beta_1 rm_t^{CN} + \beta_2 rm_t^{US} + \varepsilon_{i,t} \quad (2)$$

where rm_t^{CN} is the weekly excess return in the Chinese market, computed as the return of the Shanghai Composite Index minus the 7-day interbank rate in China; rm_t^{CN} is the weekly excess return of the US stock market, calculated as the value-weighted return on all NYSE, AMEX and NASDAQ stocks minus the one-month Treasury bill rate, the proxy of risk-free rate in the US. Each firm-specific time-series regression produces a goodness-of-fit measure ($R_{i,t}^2$). Using either equation (1) or (2), we can decompose total stock return variations into 1) the variation induced by the market-wide factor, and 2) the variation induced by firm-specific factors. The stock price informativeness measure is defined as the ratio of firm-specific return variation to market-wide variation. Following Fernandes and Ferreria (2008), we compute the informativeness measure with the following logarithmic transformation:

$$\psi_{i,t} = \log\left(\frac{1-R_{i,t}^2}{R_{i,t}^2}\right) \quad (3)$$

$\Psi_{i,t}$ thus measures firm-specific stock return variation relative to market-wide variation, and a higher value reflects that stock price contains more firm-specific information.

We denote the stock price informativeness measures derived from Eq. 1 (2) as Ψ_1 (Ψ_2). We use Ψ_1 (Ψ_2) in the main analysis (robustness check).

Regression models

Following prior research (Crawford et al., 2012; Piotroski and Roulstone, 2004; Roulstone, 2003), we employ the number of analysts, brokers and reports that follow a firm as the measure of analyst coverage. To mitigate the concern of reverse causality, we take the lead-lag approach by regressing the informativeness measure for firm *i* in year *t+1* on analyst coverage measures in year *t-1*. Our analysis includes three sets of control variables that are identified by previous studies as having an impact on the level of stock price informativeness. The one-year lagged control variables include firm-specific characteristics, prior performance, ownership, auditing quality and board characteristics. These variables are defined in Table 1. We also include industry- and firm-fixed effects to control for time-invariant characteristics in the empirical analyses.

$$Informativeness = \alpha_0 + \alpha_1 Coverage_{i,t-1} + \sum_{k=1}^{k} \alpha_{k+2} Control_k + \varepsilon \quad (4)$$

The dependent variable is stock informativeness measures Ψ_1 or Ψ_2. The key explanatory variable is *Coverage*, which is the number of financial analysts, brokers or reports following firm *I* in year *t-1*. H1 predicts that analyst coverage is positively associated with stock price informativeness as reflected by a positive and significant a_1.

To test H2 and H3 we incorporate regional institution, analyst coverage and their interaction in a regression model as follows.

$$Informativeness = \beta_0 + \beta_1 Coverage_{i,t-1} + \beta_2 Region + \beta_3 Coverage_{i,t-1} \times Region + \sum_{k=1}^{k} \beta_{k+3} Control_k + \varepsilon \quad (5)$$

The legal institutions proxies are developed by the National Economic Research Institute in China (NERI). We focus on the sub-indices that measure 1) development of

market intermediaries (i.e. accounting firms and law firms); and 2) levies and charges on firms (Berkowitz et al., 2015). If developed legal institution is associated with higher stock price informativeness as predicted by H2, $\beta 2$ should be significantly positive. H3 predicts a significantly negative b_3 in that analyst coverage matters less when regional legal institutions are strong.

<< Insert Table 1 about here >>

EMPIRICAL RESULTS

Descriptive statistics

Table 2 provides the descriptive statistics of the variables applied in our multivariate regression analyses. Our sample period covers 2003 to 2013. The stock price informativeness measure, Ψ_1 (Ψ_2), has a mean of 0.873 (0.727) and a standard deviation of 1.103 (0.943). Ψ_1 (Ψ_2) varies considerably, from 0.162 (0.085) (25% percentile) to 1.336 (1.202) (75% percentile). On average, our sample firm is followed by 4.632 analysts. The standard deviation of the analyst coverage measure is larger than its mean which reflects high dispersion in the analyst coverage among Chinese listed firms. This is consistent with the observation that the first quartile of analyst coverage is zero whereas the third quartile is five. For the average firm in our sample, the mean firm growth rate (PB ratio) is 3.204. It is worth noting that 5.6% of the sample firms experience two-year consecutive loss, while 5.8% of our sample firms are audited by a big 4 auditor. Regarding the ownership structure of the average firm in the sample, the shareholding of foreign investors is 1.3%, and mutual fund owns 3.8% of free-traded shares. 18.2% of the sampled firms have a CEO also being Chairman of the board of directors.

<< Insert Table 2 about here >>

Results on tests of H1

Table 3 presents results supporting H1 that stock price informativeness is positively associated with analyst coverage. We provide the results of three models. In all models, we incorporate a complete set of control variables. The coefficient of *Coverage* is positive and significant at the 5% level across all models when the number of analysts, brokers and reports are employed as measures of analyst coverage respectively. These suggest that the stock price of a firm becomes more informative when the firm is followed by more analysts, brokers and reports. A plausible explanation is that different analysts have their own, non-overlapping information channels through which they acquire information, indicating that an increasing amount of firm-specific information is collected and disseminated to the market for firms followed by more analysts. Meanwhile, they exert pressure on CEOs to disclose information on a timely manner. The positive association between stock price informativeness and analyst coverage is robust to the controls of firm size, growth opportunity, special treatment effect, foreign ownership, mutual fund ownership, ownership concentration, big 4 auditors and board characteristics, as well as industry and time effects.

Regarding the control variables on firm-specific characteristics, the coefficients of firm size and growth are significantly negative at the 1% level. This is consistent with the findings reported by Gul et al. (2010). The positive coefficient of fund ownership suggests that the level of stock price informativeness is higher for firms with larger fund ownership, and this is in line with the literature suggesting that better-quality corporate governance and reporting is promoted by the external monitoring of mutual funds (Ding et al., 2013). In line with previous literature, the level of firm informativeness is positively related with corporate growth rate and ownership concentration. Of the corporate governance variables, the coefficient of board meeting is significantly negative, suggesting that stock price is less informative for firms with more board meetings than the sample median. Board independence

has a positive impact on corporate transparency, consistent with previous studies of Chinese stock markets, where minority shareholder protection is weak. Finally, the level of informativeness is lower for NSOE firms, and the big 4 dummy has no significant effect in promoting the corporate information environment.

<< Insert Table 3 about here >>

Results on tests of H2 and H3

Table 4 present the results on the impact of regional institutions on stock price informativeness (H2) and the moderating effect of regional institutions on the governance role of analyst coverage. Panels A and B of provide the results for two measures of regional legal institutions. Panel A includes the index describing the development of market intermediaries, namely law firms and accounting firms, analyst coverage and their interaction term. The coefficient of *Region* is significantly positive at the 1% level across the models, suggesting that stock price informativeness is higher in regions with more developed legal environment. This is consistent with the findings in economic geography documented by Gordon and McCann (2000), Bauer et al. (2008), Wang and Lin (2013), Cumming et al. (2014), suggesting that regional environment can affect firm outcome. The disparity in the development of regional institutions has a significant effect on the corporate information environment of public firms. Panel B is based on the index describing the burden of non-tax levies and charges across different provinces. Likewise, the coefficient of *Region* remains significant and positive across the models, suggesting that stock price informativeness is higher in regions with a greater tax burden. Overall, our results lend credence to H2.

The coefficients of interaction between coverage and region in two Panels are significantly negative in general supporting H3. The results are stronger in Table B showing that firms less need to conceal value-relevant information when they do not face expropriate

from the local government.

<< Insert Table 4 about here >>

Robustness checks

We conduct several sensitivity tests to check the robustness of our results. Instead of using an informativeness measure derived from weekly excess return of the Chinese stock market (Ψ_1), we employ an alternative informativeness measure that is derived from weekly excess returns of both the Chinese and US market indices (Ψ_2), and we repeat the analysis. The results, reported in Table 5, remain consistent with our main findings. In order to control the influence of outliers, we apply the bootstrapped quantile regression technique for estimating the regressions after controlling for both region and firm fixed effects. The untabulated results are consistent with the main results, rendering further support to our hypotheses.

Finally, a potential confounding factor for the change of price informativeness during our sample period is the mandatory convergence of CGAAP (Chinese Generally Accepted Accounting principle) towards IFRS (International Financial Reporting Standard), effective from 2007. IFRS adoption may improve the corporate information environment by promoting transparency and increasing the comparability of financial reports. Because all Chinese listed firms have their fiscal year ending in December, we expect that the convergence of CGAAP towards IFRS would only affect financial statements issued in 2008 and after. Therefore, we exclude the observations from 2008 and repeat the analysis. The untabulated results remain consistent with our main findings, suggesting that findings supporting our hypotheses are not due to the introduction of IFRS.

<< Insert Table 5 about here >>

CONCLUSION

This paper investigates the association between stock price informativeness and analyst coverage in China. The analysis of a sample of Chinese listed firms between 2003 and 2013 supports our conjecture that there is a positive association between stock price informativeness and analyst coverage, suggesting that financial analysts refrain mangers from withholding firm-specific information. Next, we find that stock price informativeness is higher in regions with more developed market intermediaries and less government expropriation. Furthermore, the association between analyst coverage and informativeness is less pronounced in these regions. The results add to the literature of economic geography that, in addition to the corporate board and financial intermediaries, regional environment is an important determinant of firm policy and outcome (see Gordon and McCann, 2000; Clark and Wojcik, 2007; Bauer et al., 2008; Wang and Lin, 2013; and Cumming et al., 2014).

There are some potential avenues for future research. It is promising to examine how the regional religion or alternative legal institutions influence such as xinfang influence the ethical climate of business and investor protection which in turn determine the corporate information environment (Cao, et al. 2016; An et al., 2016). In addition, it is worthwhile to explore whether the regional political uncertainty influence corporate information environment (Cao et al., 2017).

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Table 1. Definition of Variables

Ψ_1 (Ψ_2)	Ψ_1 (Ψ_2) is a stock price informativeness measure derived from residual variances of time-series regressions of firm-specific weekly excess returns on Chinese (Chinese and US) stock market weekly excess returns.
Report	The number of analysts' reports issued for the firm.
Analyst	The number of financial analysts following the firm.
Broker	The brokerage house issuing analysts' reports for the firm.
NSOE	A dummy variable that equals 1 if the firm is a non-state-owned-enterprise, i.e. a privately-controlled firm, and 0 otherwise.
Intermediary	The development level of market intermediaries (i.e. law firms and accounting firms) in the province. The data is from Fan et al. (2010).
Levies	The burden of the non-tax levies and charges to local firms. A higher value indicates a lower burden. The data is from Fan et al. (2010).
Control Variables	
Size	The natural logarithm of market capitalization.
Growth	Price-to-book ratio.
ST	A dummy variable equal to 1 if a listed firm experiences consecutive two-year or longer loss and is therefore labelled by the stock exchange as receiving "Special Treatment" to indicate delisting risks, and 0 otherwise.
Foreign	The number of foreign shares relative to the total number of shares.
Fund	The number of shares held by mutual fund relative to the total number of shares.
OwnCon	The Herfindahl index of the ten largest blockholders of the firm.
Big4	A dummy variable equal to 1 if the listed firm is audited by one of the big 4 audit firms (i.e. PwC, Deloitte, Ernst & Young or KPMG), and 0 otherwise.
Duality	A dummy variable equal to 1 if the CEO also holds the position of board chair, and 0 otherwise.
Dmeet	A dummy variable equal to 1 if the number of board meetings is above the median value of the yearly observations, and 0 otherwise.
Dbsize	A dummy variable equal to 1 if the number of board members is above the median value of the yearly observations, and 0 otherwise.
Drind	A dummy variable equal to 1 if the ratio of independent directors is above the median value of the yearly observations, and 0 otherwise.
Dssize	A dummy variable equal to 1 if the number of supervisory board members is above the median value of the yearly observations, and 0 otherwise.

Table 2. Descriptive Statistics

This table presents the summary statistics. Variables are defined in Table 1.

Variable	Obs	Mean	S.D.	25%	50%	75%
Ψ_1	17220	0.873	1.103	0.162	0.691	1.336
Ψ_2	17220	0.727	0.943	0.085	0.601	1.202
Analyst	25273	4.632	8.821	0	0	5
Broker	25273	3.48	6.375	0	0	4
Report	25273	18.931	42.648	0	0	16
Levies	15218	13.906	1.941	13.42	14.58	15.19
Intermediary	15640	5.234	2.596	3.03	5.55	7.2
SIZE	17476	21.879	1.104	21.135	21.762	22.492
Growth	17466	3.204	62.778	1.606	2.455	4.048
OwnCon	17892	0.051	0.096	0	0.003	0.057
Big4	18023	0.058	0.234	0	0	0
Foreign	18017	0.013	0.069	0	0	0
Fund	18020	0.038	0.071	0	0.004	0.042
Duality	15642	0.182	0.386	0	0	0
Dbsize	17859	0.254	0.435	0	0	1
Drind	17859	0.41	0.492	0	0	1
Dssize	18018	0.406	0.491	0	0	1
Dmeet	18014	0.431	0.495	0	0	1
ST	25273	0.056	0.23	0	0	0
NSOE	17941	0.423	0.494	0	0	1

Table 3. Stock Informativeness and Analyst Coverage

This table presents the test of H1. Variables are defined in Table 1. We control for industry-cluster effects. ***, **, and * indicate significance at the 1%, 5% and 10% levels respectively.

	Analyst	*Broker*	*Report*
Coverage	0.006**	0.007**	0.001**
	(3.818)	(3.442)	(3.197)
SIZE	-0.424***	-0.422***	-0.420***
	(-21.406)	(-21.174)	(-25.395)
NSOE	-0.114**	-0.114**	-0.114**
	(-2.927)	(-2.938)	(-2.933)
Growth	0.001**	0.001**	0.001**
	(3.756)	(3.737)	(3.770)
OwnCon	0.940***	0.951***	0.934***
	(19.167)	(19.501)	(20.684)
Big4	-0.139	-0.139	-0.138
	(-0.927)	(-0.923)	(-0.912)
Foreign	-0.386*	-0.390*	-0.368*
	(-2.654)	(-2.643)	(-2.555)
Fund	3.317***	3.305***	3.324***
	(15.249)	(15.163)	(15.407)
Duality	-0.039	-0.039	-0.039
	(-1.182)	(-1.191)	(-1.161)
Dbsize	0.004	0.005	0.004
	(0.190)	(0.195)	(0.175)
Drind	0.036*	0.035*	0.035*
	(2.349)	(2.365)	(2.387)
Dssize	0.052	0.052	0.053
	(0.935)	(0.946)	(0.958)
Dmeet	-0.030*	-0.030*	-0.031*
	(-2.447)	(-2.418)	(-2.687)
ST	0.287***	0.287***	0.286***
	(9.778)	(9.839)	(9.924)
Constant	9.956***	9.899***	9.876***
	(20.846)	(20.627)	(24.003)
Fixed effect	Y	Y	Y
Industry	Y	Y	Y
Obs	12,750	12,750	12,750
R-squared	0.088	0.088	0.088

Table 4. Regional Development Level and Stock Price Informativeness

This table presents the test of H2 and H3. *Region* is measured by *Intermediary* and *Levies* in Panel A and Panel B, respectively. Variables are defined in Table 1. This table presents the test of H1. Variables are defined in Table 1. We control for industry-cluster effects. ***, **, and * indicate significance at the 1%, 5% and 10% levels respectively.

Panel A

	Analyst	*Broker*	*Report*
Coverage	0.038*	0.050*	0.009**
	(2.430)	(2.365)	(3.143)
*Coverage*Region*	-0.004	-0.005	-0.001*
	(-1.998)	(-1.673)	(-2.746)
Region	0.070***	0.068***	0.069***
	(8.587)	(8.148)	(9.439)
SIZE	-0.526***	-0.534***	-0.523***
	(-31.303)	(-31.760)	(-33.526)
NSOE	-0.222***	-0.223***	-0.220**
	(-4.720)	(-4.795)	(-4.567)
Growth	0.001	0.001	0.001
	(0.688)	(0.721)	(0.681)
OwnCon	2.135***	2.027***	2.153***
	(9.169)	(8.533)	(9.340)
Big4	0.019	0.019	0.018
	(0.120)	(0.126)	(0.112)
Foreign	-0.358	-0.377	-0.331
	(-0.567)	(-0.595)	(-0.524)
Fund	2.887***	2.854***	2.879***
	(10.763)	(10.618)	(11.060)
Duality	-0.053	-0.052	-0.056
	(-1.238)	(-1.202)	(-1.292)
Dbsize	0.092***	0.092***	0.089***
	(5.959)	(6.216)	(5.777)
Drind	-0.010	-0.012	-0.012
	(-0.441)	(-0.528)	(-0.525)
Dssize	0.107	0.102	0.108
	(1.949)	(1.804)	(2.005)
Dmeet	-0.061**	-0.061**	-0.062**
	(-2.878)	(-2.799)	(-2.806)
ST	0.265***	0.268***	0.262***
	(5.725)	(5.778)	(5.715)
Constant	11.693***	11.859***	11.655***
	(32.039)	(32.906)	(33.946)
Fixed effect	Yes	Yes	Yes
Industry	Yes	Yes	Yes
Obs	7,059	7,059	7,059
R-squared	0.132	0.134	0.133

Panel B

	Analyst	*Broker*	*Report*
Coverage	0.370***	0.429***	0.094***
	(5.255)	(4.942)	(5.989)
*Coverage*Region*	-0.024***	-0.028***	-0.006***
	(-5.301)	(-4.935)	(-6.000)
Region	0.061***	0.060**	0.054**
	(4.658)	(4.547)	(4.309)
SIZE	-0.529***	-0.535***	-0.528***
	(-26.518)	(-27.183)	(-26.201)
NSOE	-0.226**	-0.228**	-0.229**
	(-3.661)	(-3.619)	(-3.592)
Growth	0.001	0.001	0.001
	(0.684)	(0.707)	(0.669)
OwnCon	2.006***	1.918***	2.038***
	(7.349)	(6.932)	(7.363)
Big4	0.017	0.021	0.002
	(0.100)	(0.131)	(0.009)
Foreign	-0.364	-0.383	-0.321
	(-0.613)	(-0.640)	(-0.541)
Fund	3.132***	3.088***	3.114***
	(12.205)	(11.713)	(12.378)
Duality	-0.029	-0.029	-0.035
	(-0.689)	(-0.686)	(-0.810)
Dbsize	0.085***	0.086***	0.080**
	(5.051)	(5.282)	(4.594)
Drind	0.003	-0.000	0.005
	(0.155)	(-0.004)	(0.231)
Dssize	0.107*	0.100*	0.113*
	(2.420)	(2.146)	(2.714)
Dmeet	-0.056	-0.057	-0.058*
	(-2.118)	(-2.043)	(-2.168)
ST	0.267***	0.270***	0.262***
	(5.378)	(5.457)	(5.329)
Constant	11.274***	11.392***	11.362***
	(33.423)	(35.121)	(32.817)
Fixed effect	Yes	Yes	Yes
Industry	Yes	Yes	Yes
Obs	6,835	6,835	6,835
R-squared	0.136	0.136	0.138

Table 5. Robustness checks

We use Ψ_2 as the dependent variable for robustness checks. Variables are defined in Table 1. We control for industry-cluster effects. ***, **, and * indicate significance at the 1%, 5% and 10% levels respectively.

	Analyst	*Broker*	*Report*
Coverage	0.005**	0.006**	0.001**
	(4.007)	(4.084)	(3.553)
SIZE	-0.384***	-0.382***	-0.382***
	(-33.344)	(-32.289)	(-45.437)
NSOE	-0.073*	-0.073*	-0.073*
	(-2.605)	(-2.617)	(-2.611)
Growth	0.001**	0.001**	0.001***
	(4.574)	(4.549)	(4.640)
OwnCon	0.908***	0.917***	0.897***
	(17.700)	(17.643)	(21.883)
Big4	-0.127	-0.127	-0.126
	(-1.109)	(-1.104)	(-1.093)
Foreign	-0.369**	-0.373**	-0.354**
	(-4.337)	(-4.316)	(-4.208)
Fund	3.005***	2.994***	3.010***
	(15.910)	(15.790)	(16.090)
Duality	-0.020	-0.020	-0.020
	(-0.608)	(-0.615)	(-0.593)
Dbsize	-0.018	-0.018	-0.019
	(-0.654)	(-0.659)	(-0.655)
Drind	0.015	0.015	0.014
	(0.681)	(0.678)	(0.646)
Dssize	0.053	0.053	0.053
	(0.917)	(0.922)	(0.928)
Dmeet	-0.036**	-0.036**	-0.037**
	(-2.980)	(-2.950)	(-3.223)
ST	0.202***	0.202***	0.200***
	(4.940)	(4.962)	(4.959)
Constant	8.952***	8.916***	8.919***
	(30.678)	(29.729)	(38.771)
Fixed effect	Yes	Yes	Yes
Industry	Yes	Yes	Yes
Obs	12,750	12,750	12,750
R-squared	0.094	0.094	0.094